

Willey (N.)

THE

G. J. Savage

MORTALITY EXPERIENCE

OF

AMERICAN MISSIONARIES

BY

NATHAN WILLEY.

BRING A COMPLETE RECORD OF THE MORTALITY EXPERIENCE OF
THE FOREIGN MISSIONARIES OF THE A. B. C. F. M., FROM
ITS ORGANIZATION TO JULY 1, 1873, AS COMPARED
WITH THE "AMERICAN EXPERIENCE"
TABLE OF MORTALITY.

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To the Editorial Fraternity.

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C. C. HINE,

176 BROADWAY, N. Y.

MORTALITY EXPERIENCE OF AMERICAN MISSIONARIES.

BY NATHAN WILLEY.

THE following tables comprise a record of the mortality experience of over 1,000 missionaries of the A. B. C. F. M., including more than 13,000 years' service, mostly in foreign lands. The original data from which these tables were compiled were prepared by Rev. John A. Vinton, of Winchester, Massachusetts. Mr. Vinton has spent several years in preparing statistical information of this kind for the Board, and but few men ever lived more competent to execute such a task.

These tables embrace all the missions established by the Board since its organization. In some cases, missions have been transferred to other Boards, as the Presbyterian and Reformed Dutch, and from that time the A. B. C. F. M. has had no further control over them. Missions have also been discontinued, as in the Sandwich Islands and Borneo. In these cases the data furnished do not generally extend beyond the period of transfer or discontinuance.

In preparing these tables, the compiler was furnished with cards containing the name, place and date of birth, date of embarkation, of death, release, or return to this country, and the field of labor of each missionary. In a very few instances the date of birth was not given, but the number of years of exposure was always ascertained. In such cases the average expected mortality of the known ages exposed in each locality was found, and the additional mortality from the unknown ages, found by a simple proportion, was added to it.

It will be noticed that there is a great difference in the mortality in different parts of the globe. In Western Africa, Southern India, Southern China, and the Indian Archipelago, the mortality has been from three to nearly seven times as great as the American Experience Tables indicate, while in the Sandwich Islands and in Southern Africa the aggregate mortality has been less. In the Sandwich Islands, though lying within the tropics, the mountainous nature of the country enables foreigners to select places of residence where the air is as mild as in the mountains of Tennessee; and in South Africa, the mission stations are on an elevated pla-

tean, where the climate is as healthy and salubrious as in West Virginia.

But in all that belt of country commencing with Turkey, and extending eastward and southward through Syria, Persia, India, and Southern China, and especially in the Indian ocean, the mortality of American missionaries has been excessive, as a glance at the RECAPITULATION TABLE will show. In these countries, fevers and the cholera have caused a large ratio of the deaths, while only a very small number have died by violence.

One important and instructive feature in these tables is the comparative mortality of males and females. In all the unhealthy countries, with the singular exception of Persia, the mortality among women is much greater than among men. This may be partly accounted for by the younger age of embarkation and the less previous exposure to hardship. Among the missionaries to Turkey, the mortality among females who embarked under the age of twenty-five has been about two-and-a-half times as great as among those who were older at the time of leaving home. Among the female lives in the Sandwich Islands, we find eleven deaths between the ages of twenty-five and thirty-nine inclusive, while the tabular mortality calls for a fraction over six.

We find also a good illustration of the influence of climatic differences upon northern men and women living in the Southern States. In the missions among the Cherokee and Choctaw Indians, in the States of Georgia, Mississippi, Arkansas, and the Indian Territory, the mortality of males is about 44 per cent., and of females 46 per cent. greater than the tabular rate.

Another circumstance which will make these tables of great practical value to our life insurance companies, is the fact that nearly all these lives are from the Northern States, not more than one or two per cent. being from the south or foreign countries.

We cannot assert that these tables give the total mortality of the American missionaries arising from their foreign residence. In many cases, finding that health and usefulness were ruined, the missionary bade farewell to his chosen field and returned to die in his native land. If his recovery was deemed impossible, he severed his connection from the Board, and his subsequent record does not appear in this table. Neither have we any account of those whose health, though permanently injured, was just sufficient to enable them to linger for a few years till prematurely cut off by death, after they had left the Board and engaged in other pursuits. To obtain the total mortality which has resulted, directly and indirectly, from missionary life, would require more elaborate data.

WESTERN AFRICA, RIVER GABOON,
AND CAPE PALMAS.

SOUTH AFRICA.

AGE.	MALES.				FEMALES.				MALES.				FEMALES.			
	Years.	Years of Exposure.	Expected Mortality.	Actual Mortality.	Years.	Years of Exposure.	Expected Mortality.	Actual Mortality.	Years.	Years of Exposure.	Expected Mortality.	Actual Mortality.	Years.	Years of Exposure.	Expected Mortality.	Actual Mortality.
18					10								1	8		
19													4	5		
20													5		1307	
21													4	4		
22	6				1	9	.1015	1					5	4		
23	1				3	2							5	4		
24	1				5	1							4	4		
25	1	6			4	7							5	4		
26	3	3			4	8		1					5	4		
27	4	9	.2090		5	7	.2254		6	1	.2520		10	3	.4550	
28	6	5			6	7			5	6			11	11		
29	7	1			1	6	6		7	5			13	7		
30	6	11			1	6			10	6			15	10		
31	9	5			1	6			12	11			11	4		
32	7	10	.3271	2	6	6	.2503		13		.5846	1	14		.6305	
33	6	10			5	7		2	14	10			10			
34	7				5				16	8			15	1		
35	6	8			5				17				16			
36	6	10			5				16				16			
37	5	10	.2709	1	5		.2193		16		.7356	1	16		.7180	
38	5				5				15	8		1	15	1		
39	5				3	9		1	15				14	8		
40	5				3				15				13	3		
41	4	3			3				15				13			
42	4		.2109		2	5	.1034		15		.7365		12		.6382	
43	4				1	2			14	5			12	11		
44	3	4				6			12	5			10	9	2	
45	3								11	3						
46	3								11			1				
47	3		.1760						9	10	.6000		11		.4690	
48	3								9							
49	2	8							8	11			7			
50	2								8				6	1		
51	2								6	9			4			
52	1	4	.1128						6		.4982		4		.3001	
53	1								6				3	4		
54	1								5	8						
55	1								3	9			2			
56	1								2							
57	1		.1067						2	3	.2560				.1950	
58	1								2							
59	1								2				1			
60	1								2				1			
61	1		.0771						2				1		.0890	
62	8								2		.3129	1				
63									2				1			
64									2							
65									2							
66									1	10						
67									1							
68									1		.4567					
69									1							
70									1							
71									10							
72																
73																
74																
75																
76																
77																
78																
79																
80																
81																
82																
Total yrs.	143	1	1,4905	6	103	3	.8990	5	363	3	4,4272	5	357		3,6267	3
Add ages unknown.	8	1			2	33	3		3							
Total..	151	2	1,5747	8	136	6	1,1897	8	363	3	4,4272	5	357		3,6267	3

TURKEY.

SYRIA.

AGE.	MALES.				FEMALES.				MALES.				FEMALES.			
	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.
18					5	1	2						2	2	5	
19					11	3	2	1		6			2	3	1	
20					23	7	0.9264	1		7			5	7	1	
21	1				32	3		1		5	2	0.0633	6	6	21.42	1
22	2	3		1.3066	43					4			10	2		1
23	4	3			47	6		1		10	1		13	10		
24	10	7			54	4		1		15	9	.5348	15	11		
25	22	8			60	4	2.4751	2		16			21	1	.7794	
26					68	4				17	7		22	4		1
27	41	2	1.7012	1	71	6		1		18	4		21	11		
28	52	10			71	9		4		18	4		21	6		
29	60	3			64	10		4		19	7		19	10		1
30	69				60			3		19	5	.8198	20	10	.8277	1
31	74	1			50	3		1		11			18	2		1
32	75	10	3.1100		46	10				19			15	10		2
33	73	11			42	11		1		7			12	7		
34	68	6			40	10				9			12	7		
35	63	3			39	11	1.8184	1		7			10	5	.4771	
36	59	8			34	3				16	8	.7664	10	5		
37	57	2	2.6057	2	35					16			9			
38	53	6			29	1				12	7		7	8		
39	48	7			26			1		10			7			
40	45	6			22	5	1.1585	1		9		.4854	7			
41	40	9			18	10				3			6	3	.3306	
42	35	8	1.8753		2					7			5			
43	32	10			16	8				9			4	11		
44	28	2			12	3				7			4			
45	25	7			11					7			4			
46	23	3			9					7			3	6	.2195	
47	22		1.2341	1	5			.5640	1	6	1	.3850	3	6		
48	21	4			5					6			3			
49	19				4					6			2	11		
50	16	10			3					5	9		1	11		
51	15				2					5			1			
52	15		1.1413		4					2		.3398	1		.0941	
53	11				3					4			1	1		
54	13	4			2					3	2		1	1		
55	13				2					2	4		1			
56	10	9			2					2			1			
57	9	1	1.0312		1					2		.2009	1		.1067	
58	8	2			3					1			1			
59	7	4			2	6		1		1	1		1			
60					2					1			1			
61					2					1			1		.0963	
62					1					1			1			
63	7		.9231		2			.2602	1	10			4			
64	4	6			1											
65	4				1											
66	3	5			4											
67	2	11	.6829	1												
68	2															
69	2															
70	2															
71	2															
72	2		.9487													
73	2															
74	2															
75	1															
76		10														
77																
78																
79																
80																
81																
82																
Total yrs.	1310	2	15.4931	23	1119	8	10.4701	24	366	4	3.7074	7	334	8	3.1426	9
Add ages																
unknown	11				1	81	11		4	2	6		16	8	.1568	
Total...	1351	2	15.6214	24	1201	7	11.2359	28	368	10	3.7327	7	351	4	3.2994	9

PERSIA.

INDIA, CEYLON, MADURA, MADRAS,
ARCOT, SIAM, SINGAPORE, AND
INDIAN ARCHIPELAGO.

AGE.	MALES.				FEMALES.				MALES.				FEMALES.			
	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.
18																
19																
20																
21	1	11			2	2			1				2	3		
22	1	8			3	2			4	8			6	11		
23	1	10			4	6			9	5			11	6		
24	2	10			11	3			18	2			15	8		
25	2	10			12	10			33	6			24	11	1,1846	
26	5	3	2275	1	13	1			43	5	1,8880	1	37	11		
27	8	2			11	1			56	8			50	8		
28	9	2			12	1			73	2			60	8		
29	10	10			13	1			73	9			73	8		
30	12	10			14	8			78	9			75	3		
31	13	10	5781		15	8			85	4	3,4730	1	68	11		
32	14	8			16	9			85	10			65	11	2,8196	2
33	15	8			17	9			79	10			61	11		5
34	18	10			18	9			75	10			56	3		
35	12	8			19	8			71	7			48	5		1
36	12	8			20	1			66	11	3,0758	2	42	9		2
37	12	9	5401		21	11			62	3			33	11	1,8176	5
38	10	9			22	7			56	6			28	6		
39	9	3			23	7			51	7			27	2		
40	9	8			24	6			49				25			2
41	6	8			25	6			41				22	9	1,1705	1
42	6	8	3323		26	6			41	9			19	4		
43	5	9			27	6			39				19	11		
44	5	9			28	4			35	4			20	7		
45	5	9			29	3			33	8			19	2		
46	5	9			30	3			32		1,9177	1	19		1,1571	
47	5	9	3000		31	3			30	11			18	1		
48	5	9			32	10			28	3			18	7		
49	5	9			33	9			25	11			18	9		
50	5	9			34	9			22	9			15	10		
51	5	9			35	10			18	10	1,4914	1	15		1,1247	
52	2	11	2911		36	10			15				13	2		
53	1				37	9			14	5			10	4		1
54	1				38	8			14				9	3		
55	1				39	7			12				9	1		
56	1				40	7			10	1	1,1806		8	5		
57	1		1067		41	6			10				7	10	,8872	1
58	1				42	6			6				7			
59	1				43	5			6				6			
60	1				44	5			5				5			
61	1				45	5			5				4		,8866	
62	1		1512		46	5			4				5			
63	1				47	5			3				5			
64	10	1			48	5			3	1			4	11		
65					49	5			3				3	2		
66					50	5			3				2			
67					51	5			3				2			
68					52	5			3				2			
69					53	5			3				2			
70					54	5			3				2			
71					55	5			2				2			
72					56	5			1	11		1	2			
73					57	5			1				2			
74					58	5			1				2			
75					59	5			1				2			
76					60	5			1				1	8	,6139	1
77					61	5			1				4			
78					62	5			1							
79					63	5			1							
80					64	5			1							
81					65	5			1							
82					66	5			1							
Total yrs.	245	2	2,5714	11	223	1	2,0103	4	1610	3	19,3974	41	1398	6	15,8700	42
Add ages unknown	10	1			24				1	25	8		1	79	8	
Total..	255	3	2,6772	11	247	1	2,2968	5	1636	11	19,6963	42	1478	2	16,7741	55

SOUTH CHINA.

NORTH CHINA.

AGE.	MALES.				FEMALES.				MALES.				FEMALES.			
	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.	Years of Exposure.	Years.	Months.	Expected Mortality.
18																
19		3													8	
20		4													8	
21	1	11			1										3	
22	1			.0751	1										3	
23	2				2	5									3	
24	3				4	9									3	
25	3	8			6	8									3	
26	6	4			8										3	
27	9	4		.3149	1	7	11	.3224							10	
28	9	7			7	6									10	
29	9	6			9	3									6	
30	12				1	11	6								6	
31	13				12										5	
32	13			.5652	12										7	
33	13	8			11	2									7	
34	14				10	3									11	
35	13	5			1	10									4	
36	12	10			1	8	9								5	
37	12			.5518	7	7		.3432							11	
38	11	8			6	3									3	
39	10	2			1	4	7								10	
40	10				4										3	
41	10				4										3	
42	10	3		.4921	1	4									3	
43	9				4										3	
44	8	9			4											
45	7	7			2	1										
46	6	11			8											
47	5	7		.3310												
48	4	5														
49	3	4			1											
50	3															
51	3															
52	3			2039												
53	2	3														
54	2															
55	2															
56	2															
57	2			.2134												
58	2															
59	2															
60	2															
61	2															
62				2608											4	
63	1	4														1
64	1														7	
65	1															
66	1															
67	1			.2303												
68	1															
69		10		1												
70																
71																
72																
73																
74																
75																
76																
77																
78																
79																
80																
81																
82																
83																
Total yrs.	285	41	3.2445	8	165	4	1.4617	7	161	9	1.6346	3	155	9	1.5172	
Add ages unknown.	22	5			26	4		1					6			
Total...	308	4	3.5927	8	191	8	1.6932	8	161	9	1.6346	3	141	9	1.6156	1

SANDWICH ISLANDS AND
MICRONESIA.CHEROKEE AND CHOCTAW
INDIANS.

AGE.	MALES.				FEMALES.				MALES.				FEMALES.				
	Years of Expos- ure.	Years.	Months.	Expected Mor- tality.	Years of Expos- ure.	Years.	Months.	Expected Mor- tality.	Years of Expos- ure.	Years.	Months.	Expected Mor- tality.	Years of Expos- ure.	Years.	Months.	Expected Mor- tality.	Actual Mortal- ity.
18																	
19		1															
20		8															
21	1					2											
22	2	7		2,023		10	11	.5251									
23	6					19	9										
24	12	3				27	8										
25	16	6				33	2										
26	23	1				41	10										
27	32	8		1,2623		49	9	1.8989									
28	37	10				53	2										
29	43	11				53	9										
30	47	6				55	4										
31	50	4				53	3										
32	55	3		2,3448	1	51	10	2.2701									
33	59	5				51	9										
34	59	7				51	7										
35	59	3				49	11										
36	58	11				47	5										
37	56	10		2,5456	1	46	8	2.0946									
38	52	5				43	3										
39	48	3				39	7										
40	43					36	7										
41	40	10				36											
42	37	1		1,9394		31	9	1.7703									
43	31	3				33	1										
44	31					32	3										
45	33	3				30	5										
46	32	4				28	8										
47	31	5		1,9081	1	28		1.6394									
48	31					27	6										
49	31					27											
50	30	1				27											
51	29	3				26	11										
52	28	7		2,1160	1	25	8	1.9185									
53	26	3				22	7										
54	23	4				20	6										
55	22	3				18	6										
56	19	11				16	5										
57	19	11				18		1.9308									
58	18	6				18											
59	17	10				18											
60	17					16	5										
61	16	3				16											
62	16					16											
63	15					16		2.3182									
64	15	11				14	1										
65	11	10				11	7										
66	14					10											
67	12	5				9	4										
68	11	11		2,8311	1	7	7	1.7630									
69	11					5	1										
70	10	1				5											
71	7	7				5											
72	7					5											
73	6	5				5		1.6958									
74	4	11				4											
75	4					3											
76	2					3											
77	1	10		1,1384	1	2		1.2168									3
78	1					1											
79	1					1											
80	5					5											
81																	
82																	
83																	
Total yrs.	1492	1	22,2956	18	1461	7	21,1612	17	823	4	9,6954	14	601	5	7,4390	12	
Add ages						30	3										
unknown	45	3													61	8	
Total.	1537	3	22,9690	18	1491	10	21,5992	17	823	4	9,6954	14	603	1	8,2018	12	

RECAPITULATION.
 MORTALITY STATISTICS—MISSIONARIES A. B. C. F. M.

	MALES.			FEMALES.		
	Number of lives.	Years of exposure.	Expected mortality.	Actual mortality.	Number of lives.	Years of exposure.
Western Africa, River Gaboon, and Cape Palmas.	19	151.2	1.5747	8	5.0803	20
South Africa.	21	363.3	4.4272	5	1.1294	21
Turkey and Greece.	104	1251.2	15.6112	24	1.5344	126
Syria.	27	368.10	3.7327	7	1.8753	40
Persia.	23	255.3	2.6772	11	4.1088	24
India, Ceylon, Madura, Madras, Siam, and Indian Archipelago	127	1636.11	19.6063	42	2.1324	147
South China.	22	308.4	3.5027	8	2.2840	17
North China.	14	161.9	1.6316	3	1.8853	13
Sandwich Islands and Micronesia.	78	1557.3	22.9660	18	.7837	76
Cherokee and Choctaw Indians.	61	823.4	9.6954	14	1.4131	39
Total.	496	6357.3	85.5510	140	1.6305	523
					6260	71.4624
						146
						2.0488

In preparing the foregoing tables, it has occurred to the writer that it might be of great importance to the cause of Foreign Missions, as well as for the information of the public at large, that careful and accurate statistics of the health, exposure, and mortality of the foreign missionaries should be prepared. When we take into consideration the years of constant study and the initial expense of fitting one for this field of labor; the difficulty in finding the right class of men, who are willing to peril their lives and health in this cause, at a time when wealthy congregations are willing to pay liberally for their services at home; and especially the fact that the majority of them return with impaired health after a few years' exposure—the value of a single life rises to an importance which it is impossible for us to estimate in money, and the subject of knowing their sanitary and mortality experience, and of discovering such methods as will enable them to prolong their lives and usefulness, becomes a matter which ought to concern all who take an interest in the cause.

These tables also suggest the question whether some investigations should not be made, or statistical information obtained, to lessen the great excess of mortality among the female lives. In nearly all the mission fields the female mortality is from thirty to fifty per cent. greater than among males, which is far greater than the corresponding mortality among the sexes in the United States. It seems as if it would be but an act of justice towards that sex which makes the greatest sacrifices, who lead silent and uncomplaining lives among so much that is repugnant and disgusting to their finer sensibilities, that the causes which have produced this excess of mortality should be thoroughly investigated, and, if possible, measures taken to avoid it in the future.

